

City of

SAND SPRINGS

PO BOX 338 • 100 EAST BROADWAY STREET • SAND SPRINGS, OKLAHOMA 74063-0338 • (918) 246-2500 • FAX (918) 245-7101

COMPASS INDUSTRIES SUPERFUND SITE

Tulsa County, Oklahoma

2006

ANNUAL OPERATION AND MAINTENANCE REPORT

Submitted by

Public Works
City of Sand Springs
Sand Springs, Oklahoma

~~December 31, 2006~~

October 2007

9008417



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Maps and Drawings

Figure 1

Vent Sample, Seep Sample, and Walkover Inspection Summary
By (Stelle & Associates, Inc. of 12-16-05)

Figure 2

Vent Sample Report (Stelle & Associates, Inc. of 3-25-05)

Figure 2A

Site Maintenance Purchase Order (Lamproe Construction, Inc.)

Figure 3

INTRODUCTION

The Compass Industries Site is an abandoned landfill located in a former limestone quarry west of Tulsa, Oklahoma in Tulsa County. Physically, the site is situated on a bluff approximately one-quarter mile south and 200 feet above the Arkansas River.¹

During the period of 1972 to 1976, the site was permitted and operated as a municipal solid waste landfill. The entire Compass Industries Site consists of approximately 125 acres, of which approximately 46 acres are located in the northeastern portion of the site and is the primary area of concern.²

During the 1970's, several fires were reported at the landfill. The most recent fires burned out in 1984. Local citizen complaints of odors prompted air monitoring which revealed the presence of some organics which have been considered non-hazardous.³

In July 1987, the Environmental Protection Agency (EPA) and Oklahoma State Department of Health (OSDH) entered into a Cooperative Agreement to undertake a Remedial Investigation (RI) and Feasibility Study (FS) at the site. EPA issued a Record of Decision in September 1987, referred to as the "ROD", in which the EPA selected a remedy for the area and discussed the reason for its decision. Monitoring activities performed under contract by Stelle & Associates, were included in the ROD.

The Second Five-Year Review Final Report, completed at the end of 2001, noted that plans were underway in 2001 for Operations and Maintenance activities to move from Stelle & Associates Inc. to the City of Sand Springs. Operations and Maintenance activities performed in 2001 were performed under contract with Stelle & Associates Inc. in accordance with the EPA approved O&M plan supplied by Sunoco and Texaco.

The Third Five-Year Review Final Report, completed in April 2006, noted recommendations and follow-up to insure long-term protectiveness of the site including tree and brush removal encroaching on the site edge, erosion monitoring and maintenance as required, and continued inspection of the vegetative cover and the cap and liner for evidence of damage from brush and burrowing animals. Last, an institutional control (deed notice) was issued in September 2006 to restrict the uses of the land and minimize potential exposure to contaminants.

¹ Bechtel Environmental, Inc., "Operation & Maintenance Plan", Sec1.1, p. 1

² Ibid., p. 1-2

³ Ibid., p. 2

OPERATION AND MAINTENANCE PLAN

Seep Sampling – Every five years, if water is present. Data and description to be included in the five-year review. (Third five-year review report – April 2006).

Last Sampling – 2005 inspection of sites and monitoring (analysis not possible)
1995 with analysis, 2000 monitoring (analysis not possible)

Five sampling sites and two background sites identified in the 2000 Annual Monitoring Report submitted by Stelle & Associates Inc. and shown on attachment (Figure 1) remain the primary area of focus for scheduled sampling. In addition, the sample collection apparatus and methods described in the referenced 2000 Stelle & Associates report will be utilized for sample recording.

The seep locations defined were monitored monthly in 2000 with no resulting presence of water for collection and analysis. The seep sampling locations were visually checked every two weeks beginning on July 15, 2005 and ended on September 15, 2005. There was no moisture present at any of the sampling points on the site, and only minor amounts of water present at the background locations (Stelle & Associates Report of December 16, 2005 – Figure 2 of the 2005 Annual M&O Report).

Next Scheduled Sampling – 2010

Surface Water Sampling – Every five years, if water is present. Data and description to be included in the five-year review. (Third 5-year review report – April 2006).

Last Sampling – 2000, Present - March 2006 for 2005 requirement (samples not available until March 2006 due to draught conditions).

Laboratory results for the 2005 sampling showed no chemicals present above the monitoring levels. Most parameters were below detection limits. See Stelle & Associates Report dated April 7, 2006 (Figure 3 of the 2005 Annual M&O Report).

The sampling equipment, site locations noted in attachment (Figure 1), and general methods used are described in the 2000 Annual Monitoring Report by Stelle & Associates Inc.

Next Scheduled Sampling – 2010

Site Inspections – Semiannually. Description to be included in the Annual O&M Report and the five-year reviews. (Third 5-year review report – April 2006).

Last Report – 2005 Annual Operation and Maintenance Report
5-Year Review Report Dated April 2006

Year 2006 – Site Inspection (April and October Walkovers)
Stelle & Associates, Inc. reports of May 2, 2006 and
October 20, 2006 (Attachment Figures 2 and 2A).

The vegetative cover is well established and remains healthy. The site is covered with native grasses except in the main drainage swale where Bermuda was planted to control erosion. The native and Bermuda grasses continue to naturally seed and mix. The vegetative cover is adequately holding the cap soil in place and no erosion sites were evident. All previously repaired erosion sites have blended into the environment. The riprap material supplemented to that existing at the west end of the cap drainage swale in 2001 was monitored, and appears to provide adequate cover of the geotextile. Woody vegetation was removed from an area along the northern slope in 2001 and that area remains satisfactory.

Woody vegetation growth was monitored around the cap edges and slopes during the April and October 2006 walkovers, and the April 2006 mowing operation. Woody vegetation growth that neared encroachment of the cap was scheduled for removal in 2007. The removal procedure will enhance the cap liner protection and overall site maintenance. No evidence of damage to the cap or liner system from brush or burrowing animals was discovered during the walkovers and mowing operation.

The drainage system appears to be working properly, and the wet areas at the west end below the cap toe commonly remain after most other areas have dried. These areas do dry after a prolonged dry spell and were mowed during the September 2004 mowing operations. The cyclic wetting and drying described in the 2001 Five-Year Review Final Report is the standard used for seasonal monitoring and identifying out of ordinary change.

The cap perimeter is secured by chain-link fence with a barbed wire top and locked gates. There is no evidence of continued or long-term use of the site, although evidence that unauthorized persons have been on the site has been noted. The evidence includes theft of warning signs and broken gates. Other vandalism or damage to the cap has not occurred.

Next Site Inspection – April/May 2007

Settlement Survey – Every five years. Data and description to be included in the five-year review. (Third 5-year review report – April 2006).

Last Survey – April 2001, Current – February 2006

The Cap Settlement Marker Elevation Survey Report dated February 28, 2006 by Breisch & Associates (Figure 4 of the 2005 Annual M&O Report) indicates only slight change from previous surveys.

Year	Markers					
	1	2	3	4	5	6
1994	860.73	847.47	846.09	832.58	N. A.	823.34
2001	860.75	847.42	846.06	832.55	822.25	823.34
2006	860.76	847.43	845.99	832.58	822.47	823.39

The method, control positions, and marker positions described in the Breisch & Associates letter of February 28, 2006 will be utilized in the future.

Next Survey – 2010 (Early 2011)

Site Maintenance – As necessary, based on semiannual Site Inspections and Five-Year Reviews. Description to be included in the Annual O&M Report and the five-year reviews. (Third 5-year review report – April 2006).

In 2006 Lamproe Construction Inc. received Sand Springs P.O. 062564 (Figure 3) to restore the integrity of the damaged chain-link fence, gates and warning signs. In addition, they provided equipment and grass mowing services and removed some woody vegetation to avoid encroachment onto the cap.

Stelle and Associates, Inc. also perform and record walkover inspections relative to site maintenance requirements during their semiannual vent sampling activities. Figures 2 and 2A).

Next Maintenance – As Required

Vent Sampling – Semiannually. Data and description to be included in the Annual O&M Report and the five-year reviews. (Third 5-year review report – April 2006).

Last Sampling – April and October 2006

The vent emissions were sampled monthly through 2000 by Stelle & Associates Inc. with a Foxboro Organic Vapor Analyzer (OVA), equipped with a flame ionization detector. OVA readings ranged from below detection limits to 150ppm.

Stelle & Associates, Inc provided service to locate, inspect, and record sample vent emission tests at the eleven (11) vents along the perimeter of the site cap on April 28, 2006. The vents were tested utilizing a MiniRea 2000 Organic Vapor Analyzer (OVA) with Photo-Ionization Detector (PID). Prior to conducting the tests the OVA was calibrated with a 100ppm isobutylene span gas. Sample readings of vents were 0.0ppm on the OVA, except vent No. 1 which registered 2.8ppm. (Attachment – Figure 2).

Stelle & Associates also provided the same service for vent sampling on October 19, 2006 and recorded readings at six (6) vents of 0.00 ppm. The remaining vents were recorded as follows: No.2 @1300-9000ppm, No.4 @48.4ppm, No. 5 @140ppm, No.6 @35.8ppm, and No. 11 @38.4ppm. (Attachment – Figure 2A).

Next Sampling – April/May and October/November 2007

Institutional Controls – Semiannually. Status to be reported in the Annual O&M Report and the five-year reviews. (Third 5-year review report – April 2006).

Last Report – 2005, Current 2006 – see Note 1.

Note 1. Sand Springs took no additional action in 2005 and 2006 (see EPA letter of July 1, 2005). The following is action by Sand Springs in 2004:

The second five-year final report makes reference to the EPA having had restrictions incorporated into the deeds for the sites known as the Compass Industries Superfund Site. The EPA also required that no activity occur which may damage the landfill cap.

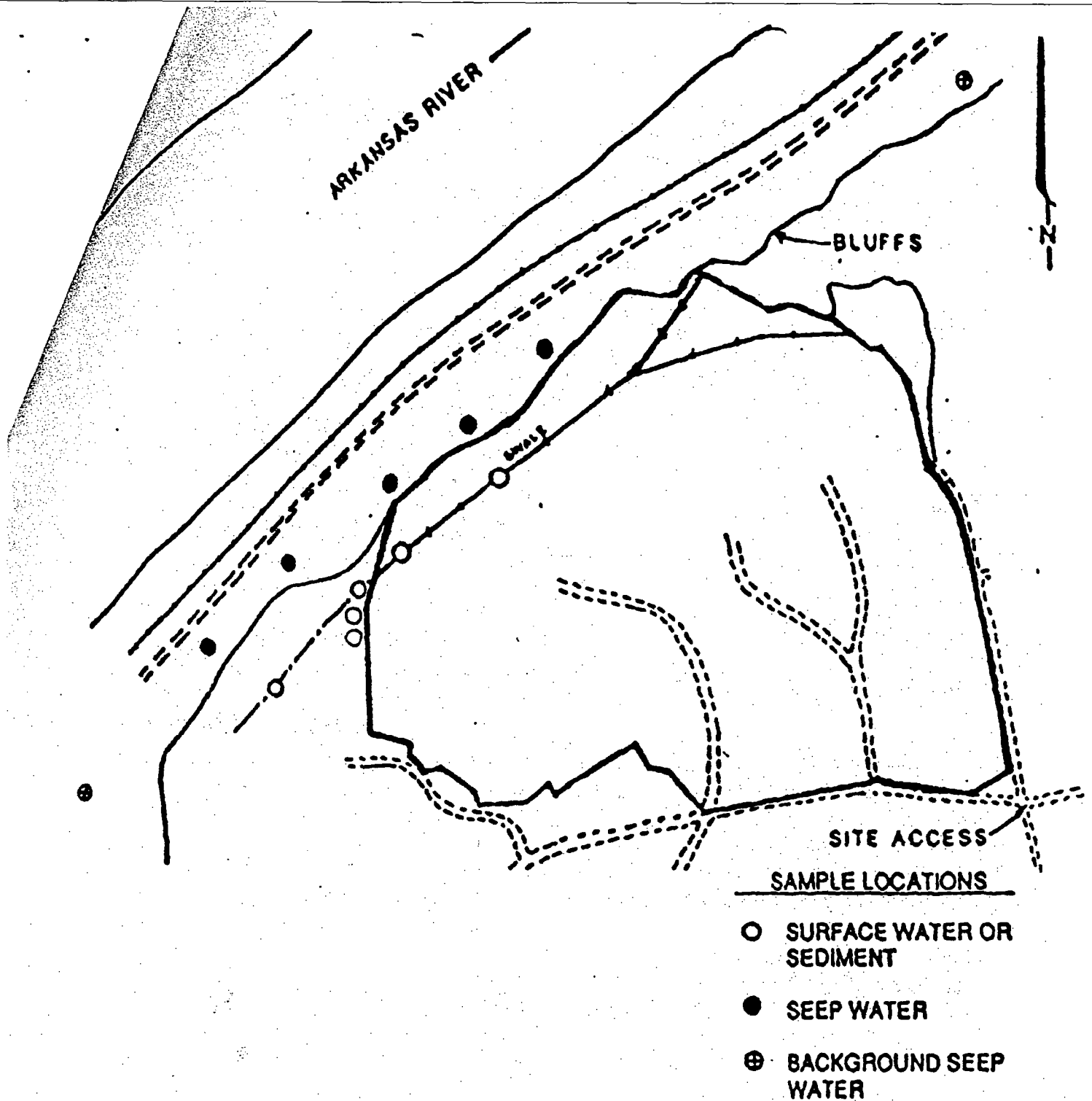
Sand Springs retained the services of Cinnabar Service Company in 2004 to investigate land records at the Tulsa County Court House Records Office and discovered there are multiple owners, and trusts with ownership of the Compass Site land.

The investigation, conducted for conveying deeds between the years 1987 to 2004, determined that no restrictions, regulations, or guidelines from the Environmental Protection Agency were outlined on any conveying deeds recorded during the seventeen years searched. Tract No. 4 adjacent to the cap does reference the superfund site. (Attachment – Figure 9 of the 2004 Annual M&O Report).

As a result of this investigation the Oklahoma Department of Environmental Quality (ODEQ), in consultation with EPA, did issue a deed notice (Notice of Remediation under CERCLA) involving the site dated September 25, 2006. The deed notice is intended as an institutional control to restrict the uses of the land at the site and minimize potential exposure to contaminants.

Sand Springs will reinvestigate the land records and deeds at the Tulsa County Court House Records Office for the deed notice intended institutional control of 2006. The investigation will be completed in 2007.

Next Report - 2007



NOTE: The location of the monitoring points is approximate and will be limited to: 5 seep samples
2 background samples

FIGURE 1
SAMPLE PROGRAM LOCATION PLAN

FIGURE 1



Stelle & Associates, Inc.

ENVIRONMENTAL CONSULTANTS

May 2, 2006

Frank Weigle
City of Sand Springs
216 N Lincoln
Sand Springs, OK 74063-0338

RE: Compass Industries site vent sampling

Dear Frank:

At your request I inspected the capped area and tested the eleven (11) vents along the perimeter of the former Compass Industries site. This work was performed April 28, 2006.

The vents were tested utilizing a Mini Rea 2000 Organic Vapor Analyzer (OVA) with a Photo-Ionization Detector (PID). Prior to testing the vents the OVA was calibrated with a 100ppm isobutylene span gas. Readings on of the vents were 0.0ppm on the OVA, except vent #1 which registered 2.8ppm. The vents were in good condition with all screens intact.

The inspection of the cap revealed no problems. The perimeter fence was in good condition and the main gate had been replaced. No other problems were observed.

If you have any questions or need further assistance please give me a call.

Sincerely,

J. Scott Stelle

J. Scott Stelle R.E.M.
President

FIGURE 2



Stelle & Associates, Inc.

ENVIRONMENTAL CONSULTANTS

October 20, 2006

Frank Weigle
City of Sand Springs
216 N Lincoln
Sand Springs, OK 74063-0338

RE: Compass Industries site vent sampling

Dear Frank:

At your request I inspected the capped area and tested the eleven (11) vents along the perimeter of the former Compass Industries site. This was the second monitoring of the vents for this year. The work was performed October 19, 2006.

The vents were tested utilizing a Mini Rea 2000 Organic Vapor Analyzer (OVA) with a Photo-Ionization Detector (PID). Prior to testing the vents the OVA was calibrated with a 100ppm isobutylene span gas. The vents were in good condition with all screens intact, except on the #2 vent. The readings for each vent are as follows;


1. 0.0
2. 1300-9000ppm
3. 0.0
4. 48.4ppm
5. 140ppm
6. 35.8ppm
7. 0.0
8. 0.0
9. 0.0
10. 0.0
11. 38.4

This is the first time that readings have been noted on any of the vents other than #2. There could be a number of factors responsible for the elevated vapor readings, such as drought conditions or seismic activity in the area.

The inspection of the cap revealed no problems. The perimeter fence was in good condition. No other problems were observed.

If you have any questions or need further assistance please give me a call.

Sincerely,

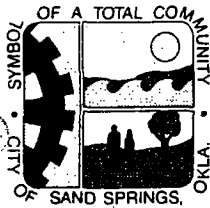


J. Scott Stelle R.E.M.
President

FIGURE 2A

P.O. Box 470071 ♦ Tulsa, Oklahoma 74147-0071 ♦ (918) 425-4277

♦ Fax (918) 622-2206♦



PURCHASE ORDER

CITY OF SAND SPRINGS/MUNICIPAL AUTHORITY
ACCOUNTS PAYABLE
P.O. BOX 338
SAND SPRINGS, OKLAHOMA 74063

PURCHASE ORDER NO.
062564

PAGE: 1

DATE: 04/04/06

V
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163
LAMPROE CONSTRUCTION INC
14747 W 111TH ST
SAPULPA, OK 74066

S
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CITY OF SAND SPRINGS
109 N GARFIELD AVE
SAND SPRGS, OK 74063

PROJECT NO.		CONTRACT NO.		REQUISITION NO. 8572	
REQUISITIONED BY FRANK WEIGLE		REQUISITIONED DATE 03/30/06	ACCOUNT NO. 740-9320-434.30-02		F.O.B.
QUANTITY	UOM	DESCRIPTION		UNIT COST	EXTENDED COST
1.00	EA	COMPASS LANDFILL SITE MAINTENANCE PROVIDE LABOR, MATERIAL, AND EQUIPMENT TO COMPLETE THE FOLLOWING WORK: BRUSCH HOG THE APPROXIMATELY 46 ACRE FENCED CAP SITE OF THE COMPASS LANDFILL AS DIRECTED PRICE NOT TO EXCEED \$1,500.00 REBUILD EXISTING GATES AND MAKE NECESSARY REPAIRS TO CHAINLINK FENCING THAT ARE DAMAGED AS DIRECTED. PRICE NOT TO EXCEED \$1,200.00 TOTAL COST NOT TO EXCEED \$ 2,700.00 SEE FRANK WEIGLE FOR DIRECTIONS AND ACCESS TO SITE		2700.0000	2700.00
				SUB-TOTAL	2700.00
				TOTAL	2700.00

I hereby certify that the amount of this encumbrance has been entered against the designated appropriation accounts and that this encumbrance is within the authorized available balance of said appropriation.

DATE

FINANCE DIRECTOR

I hereby certify that the merchandise and/or services described above have been satisfactory received and that this purchase order is now a true and just debt to this City. This purchase order is therefore approved for consideration for payment by the governing board.

The above Purchase Order number must appear on all packages, shipping papers, invoices, and correspondence relating to this order.

FIGURE 3

APPROVAL

DATE RECEIVED

RECEIVED BY

DATE

SIGNATURE